

**Amendment and Response**

Applicant: Jason D. Hanzlik et al.

Serial No.: 10/730,698

Filed: December 8, 2003

Docket No.: 10395US01

Title: TAPE REEL ASSEMBLY WITH WEAR RESISTANT DRIVEN TEETH

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**REMARKS**

The following remarks are made in response to the Non-Final Office Action mailed October 19, 2005. In that Office Action, claims 1, 3-6, 10, 12-15, 17, 19-23, 25, and 26 were rejected under 35 U.S.C. § 102(b) as being anticipated by Morita et al., U.S. Patent Publication No. 2002/0158161 ("Morita"). Claims 2, 7-9, 11, 16, 18, and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Morita in view of Boutni, U.S. Patent No. 4,749,738 ("Boutni").

With this Response, claims 1, 10, and 17 have been amended. Claims 1-26 remain pending in the application and are presented for consideration and allowance.

**35 U.S.C. § 102 Rejections**

Claims 1, 3-6, 10, 12-15, 17, 19-23, 25, and 26 were rejected under 35 U.S.C. § 102(b) as being anticipated by Morita.

Morita teaches at page 4, paragraphs 107-110 a cartridge 1 including a case 3 that encloses a reel 2 and a reel-rotation restraining means 10. With reference to FIG. 1, Morita teaches that the reel 2 is enclosed within the case 3, and the reel-rotation restraining means 10 is nested within the reel 2 between an upper case 31 and a lower case 32 portion. With reference to FIG. 2, Morita teaches that the reel-rotation restraining means 10 includes a restraining member 4 and a releasing member 6. In pertinent part, the reel 2 of Morita is analogous to the tape reel assembly of the pending application, and the reel-rotation restraining means 10 is analogous to the brake assembly of the pending application.

Morita teaches at page 5, paragraph 119 that either the restraining member 4 or the releasing member 6 may be formed with synthetic resin containing a lubricant. Thus, Morita teaches a lubricant additive to the reel-rotation restraining means 10, which is believed to be analogous to the brake assembly of the pending application. Applicant recognizes that the reel 2 taught by Morita includes a reel gear 24. However, nowhere does Morita teach or suggest the addition of a lubricant to the reel gear 24 that is otherwise a portion of the reel 2.

With this response, independent claim 1 has been amended to provide a tape reel assembly for a data storage tape cartridge including: a hub defining a tape winding surface that

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includes a first end and an opposing second end; and driven teeth projecting outwardly relative to one of the opposing ends of the tape winding surface and defining an engagement surface, where the driven teeth are formed from a polymer including a lubricating additive.

Independent claim 10 has been amended to provide a data storage tape cartridge including: a housing defining an enclosed region and an opening communicating with the enclosed region, at least one tape reel assembly rotatably disposed within the enclosed region and including: a hub defining a tape winding surface, and driven teeth defining an engagement surface, where the driven teeth are exposed within the opening in the housing upon final assembly and are formed from a polymer including a lubricating additive.

Independent claim 17 has been amended to provide generating a hub to include a tape winding surface that defines opposing ends, where driven teeth project outwardly relative to one of the opposing ends of the tape winding surface.

The amendments do not add new matter. Support for the language of the amendments can be located throughout the Specification, and in particular: at page 7, lines 1-19; page 10, line 23 through page 11, line 8; and in FIGS 2-3 and FIGS. 5-6.

It is respectfully submitted that Morita does not teach or suggest a hub defining a tape winding surface that includes a first end and an opposing second end; and driven teeth projecting outwardly relative to one of the opposing ends of the tape winding surface and defining an engagement surface, where the driven teeth are formed from a polymer including a lubricating additive, as required by amended independent claim 1.

In addition, it is respectfully submitted that Morita does not teach or suggest a housing defining an enclosed region and an opening communicating with the enclosed region, at least one tape reel assembly rotatably disposed within the enclosed region and including: a hub defining a tape winding surface, and driven teeth defining an engagement surface, where the driven teeth are exposed within the opening in the housing upon final assembly and are formed from a polymer including a lubricating additive, as required by amended independent claim 10.

Additionally, it is respectfully submitted that Morita does not teach or suggest generating a hub to include a tape winding surface that defines opposing ends, where driven teeth project

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outwardly relative to one of the opposing ends of the tape winding surface, as required by amended independent claim 17.

Based upon the above, it is respectfully submitted that claims 1, 3-6, 10, 12-15, 17, 19-23, 25, and 26 cannot be anticipated by Morita. It is respectfully requested that the rejections to these claims under 35 U.S.C. § 102(b) as being anticipated by Morita be withdrawn, and claims 1, 3-6, 10, 12-15, 17, 19-23, 25, and 26 be allowed.

**35 U.S.C. § 103 Rejections**

Claims 2, 7-9, 11, 16, 18, and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Morita in view of Boutni.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to modify or combine the reference teachings. Second, there must exist a reasonable expectation of success. Third, the references must teach or suggest all of the claim limitations. MPEP § 2143.

The Examiner concedes that Morita does not disclose a polymer including up to 25%, 2-10%, or 5% by weight lubricating additive, and that Morita does not disclose polycarbonate that is 20% glass-filled and containing approximately 5% by weight polytetrafluoroethylene. The Examiner asserts that Boutni teaches forming components from compounds including polycarbonate, 20% glass-filled fiber, and 5% polytetrafluoroethylene. The Examiner concludes that it would have been obvious to one having ordinary skill in the art to form the teeth of the tape reel assembly taught by Morita to include the polymer compositions taught by Boutni. Applicant respectfully disagrees.

Morita teaches in paragraphs 110-111 that the restraining member 4 restricts rotation of the reel 2 by moving into and away from the reel 2, further compelling the conclusion that the reel-rotation restraining means 10 functions as a brake assembly and is not a hub of the reel 2. In addition, portions of the releasing member 6 are inserted into and through holes bored into the reel 2 to enable the releasing member 6 to move the restraining member 4 in a releasing direction. In this manner, the reel-rotation restraining means 10 allows rotation of the reel 2 when in use, and restricts the rotation of the reel 2 when the cartridge 1 is stored.

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Thus, the reel-rotation restraining means 10 is brake-like and includes two moving and interacting parts: the restraining member 4 and the releasing member 6. Morita teaches at page 5, paragraph 119 that either the restraining member 4 or the releasing member 6 may be formed with synthetic resin containing a lubricant. Morita does not teach or suggest the possible beneficial results of adding a lubricant to driven teeth of a hub of a tape reel assembly (for example the driven teeth 24 illustrated in Morita at FIG. 1 and FIG. 2).

Applicant respectfully submits that there is no suggestion or motivation available in the cited references to modify the reel 2 of Morita to include driven teeth having the additives taught by Boutni. In this regard, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not in Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991); MPEP § 2143.

However, even if the purported combination is made, the resulting device would merely provide the reel-rotation restraining means 10 of Morita with the polymer compositions taught by Boutni. That is to say, the reel-rotation restraining means 10 that are analogous to the brake assembly of the pending invention would contain the lubricant. In contrast, amended independent claim 1 provides driven teeth projecting outwardly relative to one of the opposing ends of a tape winding surface and formed from a polymer including a lubricating additive; amended independent claim 10 provides driven teeth that are exposed within an opening in a tape reel assembly housing upon final assembly and formed from a polymer including a lubricating additive; and amended independent claim 17 provides generating a hub to include a tape winding surface that defines opposing ends, where driven teeth define an engagement surface and project outwardly relative to one of the opposing ends of the tape winding surface.

Consequently, it is respectfully submitted that a *prima facie* case of obviousness cannot be established based upon the cited references since there is no motivation to combine the references; and even if the purported combination is made, the combination fails to teach or suggest all of the claim limitations.

Based upon the above, it is respectfully requested that the rejections to claims 2, 7-9, 11, 16, 18, and 24 under 35 U.S.C. § 103(a) as being unpatentable over Morita in view of Boutni be withdrawn, and that claims 2, 7-9, 11, 16, 18, and 24 be allowed.

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**Other Art of Record**

The Office Action concludes at page 4 that the prior art of record that has not been relied upon is considered pertinent to Applicant's disclosure, which is noted with appreciation. The prior art of record that has not been relied upon has been reviewed, and the following interpretation is respectfully submitted:

Schoettle et al., U.S. Patent No. 6,745,968 ("Schoettle") teaches a tape reel assembly including components that are analogous to a brake assembly (for example, a reel brake 100 and a driver disk 40) that include wear-resistant plastic. *See*, for example, Schoettle at column 8, lines 60-67. Applicant respectfully submits that Schoettle does not teach or suggest driven teeth that project from one of the opposing ends of a tape winding surface and are formed from a polymer including a lubricating additive, or driven teeth formed from a polymer including a lubricating additive that are exposed within an opening in a tape reel assembly housing upon final assembly, as required by a relevant one of the amended independent claims.

Likewise, Morita et al., U.S. Patent Publication No. 2002/0085312 ("Morita Pub. '312") teaches in paragraph 67 that the brake member 104 and the brake release member 106 can be formed of low-friction, hard wearing material. It is respectfully submitted that Morita Pub. '312 does not teach or suggest driven teeth that project from one of the opposing ends of a tape winding surface and are formed from a polymer including a lubricating additive, or driven teeth formed from a polymer including a lubricating additive that are exposed within an opening in a tape reel assembly housing upon final assembly, as required by a relevant one of the amended independent claims.

Similarly, Ikebe et al., U.S. Patent No. 5,860,611 ("Ikebe") teaches at column 16, lines 61-67 that a reel brake member 7 may be formed of a composite material including an additive. *See*, for example, Ikebe at FIG. 4 illustrating the reel brake member 7. Ikebe does not teach or suggest driven teeth that project from one of the opposing ends of a tape winding surface and are formed from a polymer including a lubricating additive, or driven teeth formed from a polymer including a lubricating additive that are exposed within an opening in a tape reel assembly housing upon final assembly, as required by a relevant one of the amended independent claims.

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Momoi et al., U.S. Patent Application Publication No. 2002/0175239 ("Momoi") has been cited by the Examiner to merely illustrate a tape reel assembly, which is acknowledged by Applicant.

Based upon the above, Applicant respectfully submits that all claims define over the entirety of the prior art of record.

**CONCLUSION**

In view of the above, Applicant respectfully submits that pending claims 1-26 recite patentable subject matter, are in form for allowance, and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1-26 is respectfully requested.

No fees are required under 37 C.F.R. 1.16(b)(c). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 09-0069.

The Examiner is invited to telephone the Applicant's representative at the below-listed numbers to facilitate prosecution of this application.

Any inquiry regarding this Amendment and Response should be directed to either Eric D. Levinson at Telephone No. (651) 704-3604, Facsimile No. (651) 704-5951, or to Timothy A. Czaja at Telephone No. (612) 573-2004, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

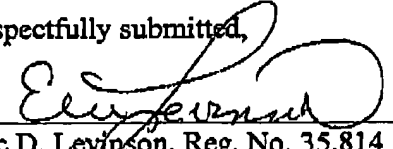
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Respectfully submitted,

  
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